## AUTHOR INDEX


Aiki, K., see Funakoshi 45 (1978) 252
Akasaki, I., see Matsuda 45 (1978) 192
Akoh, H., Y. Tsukasaki, S. Yatsuya and A. Tasaki, Magnetic properties of ferromagnetic ultrafine particles prepared by vacuum evaporation on running oil substrate 45 (1978) 495
Al-Jassim, M., see Booker 45 (1978) 407
Arita, Y., Formation and oxidation of porous silicon by anodic reaction 45 (1978) 383

Bălțăteanu, N., see Spânulescu 45 (1978) 471
Ban, V.S., Novel reactor for high volume low-cost silicon epitaxy 45 (1978) 97
Bando, Y., M. Kyoto, T. Takada and S. Muranaka, Mass spectrometric study on chemical transport of $VO_2$ 45 (1978) 20
Bernard, C., see Madar 45 (1978) 37
Bloem, J., see Shohno 45 (1978) 187
Bonnet, M., see Duchemin 45 (1978) 181
Booker, G.R., J.M. Titchmarsh, J. Fletcher, D.B. Darby, M. Hockly and M. Al-Jassim, Nature, origin and effect of dislocations in epitaxial semiconductor layers 45 (1978) 407
Borel, J., see Trilhe 45 (1978) 439
Braun, P.D. and W. Kosak, Local selective homoepitaxy of silicon at reduced temperatures using a silicon–iodine transport system 45 (1978) 118

Chernov, A.A. and M.P. Rusaikin, Theoretical analysis of equilibrium adsorption layers in CVD systems (Si–H–Cl, Ga–As–H–Cl) 45 (1978) 73
Cohen, P.I., see Park 45 (1978) 435
Costato, M., see Ottaviani 45 (1978) 365
Cullis, A.G., see Farrow 45 (1978) 292

Darby, D.B., see Booker 45 (1978) 407
Dejima, K., see Yoshida 45 (1978) 376
Doi, A., see Funakoshi 45 (1978) 252
Duchemin, J.P., M. Bonnet, F. Koelsch and D. Huyghe, A new method for the growth of GaAs epilayer at low $H_2$ pressure 45 (1978) 181
Duchemin, J.P., see Trilhe 45 (1978) 439

Einstein, T.L., see Park 45 (1978) 435
Elam, W.T., see Park 45 (1978) 435

Faktor, M.M., see Garrett 45 (1978) 150
Farrow, R.F.C., A.G. Cullis, A.J. Grant and J.E. Pattison, Structural and electrical properties of epitaxial metal films grown on argon ion bombarded and annealed (001)InP 45 (1978) 292
Fletcher, J., see Booker 45 (1978) 407
Fruchart, R., see Madar 45 (1978) 37
Fujimoto, M., see Seki 45 (1978) 159
Fujita, S., see Taguchi 45 (1978) 204
Fujita, S., H. Mimoto and T. Noguchi, Liquid-phase epitaxy of ZnSe from Zn–Ga solution 45 (1978) 281
Fujiwara, N., see Naito 45 (1978) 506
Fukui, T. and T. Kobayashi, New gaseous impurity and its effect on the purity of LPE GaAs 45 (1978) 243
Funakoshi, K., A. Doi, K. Aiki and R. Ito, Liquid phase epitaxial growth of $Ga_{1-x}Al_xAs$ on channeled substrates 45 (1978) 252
Furukawa, Y., see Kobayashi 45 (1978) 48
Furukawa, Y. and T. Kobayashi, On the growth mechanism of polycrystalline snow crystals with a specific grain boundary 45 (1978) 57

Garrett, I., M.M. Faktor and M.H. Lyons, Studies of vapour transport reactions for III–V compounds 45 (1978) 150
Giling, L.J., see Van Enckevort 45 (1978) 90
Gonda, T. and T. Yamazaki, Morphology of ice droxtals grown from supercooled water droplets 45 (1978) 66
Grant, A.J., see Farrow 45 (1978) 292

Hamakawa, Y., see Takakura 45 (1978) 267
Hamakawa, Y., see Yamazoe 45 (1978) 454
Harsdorff, M. and G. Reiners, The mobility of small gold crystallites on KBr cleavage planes 45 (1978) 17
Hasiguti, R.R., T. Ishibashi and H. Yumoto, Morphology and growth mechanism of vapor grown Cd crystals as affected by Bi impurity 45 (1978) 13
Hayashi, I., see Nunomura 45 (1978) 355
Hayashi, T. and S. Kurosawa, Electron microscope study of intrinsic and extrinsic stacking faults, and twins in SOS at the early stage of epitaxial growth 45 (1978) 426
Hiraki, A., see Iwami 45 (1978) 467
Hirose, M., see Taniguchi 45 (1978) 126
Hockly, M., see Booker 45 (1978) 407
Hornung, J., see Jakobus 45 (1978) 224
Hoshi, Y., see Naoe 45 (1978) 361
Huber, W., see Lopez-Otero 45 (1978) 214
Huyghe, D., see Duchemin 45 (1978) 181

Igaki, K., see Mochizuki 45 (1978) 218
Igasaki, Y., see Mitsuhashi 45 (1978) 350
Ikoma, T., see Okumura 45 (1978) 459
Inoue, Y., see Suzuki 45 (1978) 108
Inuishi, Y., see Taguchi 45 (1978) 204
Ishibashi, T., see Hasiguti 45 (1978) 13
Ishida, M., S. Tsuji, K. Kimura, H. Matsunami and T. Tanaka, Epitaxial growth of ferroelectric PLZT [(Pb,La)(Zr,Ti)$O_3$] thin films 45 (1978) 393
Ishitani, A., see Nunomura 45 (1978) 355
Ishii, M., see Saeki 45 (1978) 25
Ito, H., see Ito 45 (1978) 248
Ito, K. and H. Ito, Growth of p-type InP single crystals by the temperature gradient method 45 (1978) 248
Ito, K., Preparation of Ge–Si epitaxial alloys by sputtering 45 (1978) 340
Ito, R., see Funakoshi 45 (1978) 252
Itoh, H., T. Saitoh, N. Nakamura, S. Matsubara, T. Warabisako and T. Tokuyama, Characterization of silicon layers epitaxially grown on metallurgical-grade polycrystalline substrates 45 (1978) 446
Itoh, S., see Morimoto 45 (1978) 334
Iwami, M., S. Kim, I. Matsuo and A. Hiraki, AES study of the low temperature growth of $Cu_{2-x}S$ on CdS 45 (1978) 467
Iwanaga, H., N. Shibata, O. Nittono and M. Kasuga, Crystal growth in *c* direction and crystallographic polarity in SnO crystals 45 (1978) 228

Jakobus, T. and J. Hornung, Influence of the VPE parameters on the epitaxial film properties for the $(Pb_{1-x}Sn_x)_{1+y}Te_{1-y}$ system 45 (1978) 224

Kakehi, M., see Kitamura 45 (1978) 176
Kamegashira, N., see Naito 45 (1978) 506
Kaneko, M., see Mitsuhashi 45 (1978) 350
Kariya, T., see Takakura 45 (1978) 267
Kariya, T., see Yamazoe 45 (1978) 454
Kasuga, M., see Iwanaga 45 (1978) 228
Katayama, Y., see Shiraki 45 (1978) 287
Kawabata, A., see Shiosaki 45 (1978) 346
Kawada, I., see Saeki 45 (1978) 25
Kim, S., see Iwami 45 (1978) 467
Kimura, K., see Ishida 45 (1978) 393
Kishi, K., Morphological change from copper/α-copper–zinc whiskers to dendrites in zinc reduction growth 45 (1978) 517

Kitagawa, M., J. Saraie and T. Tanaka, Heteroepitaxial growth of the ZnS on GaP by the close-spaced technique 45 (1978) 198
Kitamura, N., M. Kakehi and T. Wada, Vapor growth of $Ga_xAl_{1-x}Sb$ 45 (1978) 176
Kobayashi, K.L.I., see Shiraki 45 (1978) 287
Kobayashi, T. and H. Takei, Chemical vapor deposition of scandium hydride 45 (1978) 29
Kobayashi, T., see Furukawa 45 (1978) 57
Kobayashi, T. and Y. Furukawa, Epitaxial relationships during the formation of three-dimensional snow dendrites 45 (1978) 48
Kobayashi, T., see Fakui 45 (1978) 243
Kodama, M., see Yamada 45 (1978) 326
Koelsch, F., see Duchemin 45 (1978) 181
Komatsubara, K.F., see Shiraki 45 (1978) 287
Komeno, J., A. Miura and S. Ohkawa, A multi-wafer growth technique for GaAs vapor phase epitaxy using the $AsCl_3$–Ga–$N_2$ system with a horizontal reactor 45 (1978) 171
Konagai, M., M. Sugimoto and K. Takahashi, High efficiency GaAs thin film solar cells by peeled film technology 45 (1978) 277
Kosak, W., see Braun 45 (1978) 118
Koukitu, A., see Seki 45 (1978) 159
Kuiper, A.E.T., G.E. Thomas and W.J. Schouten, Thin film deposition from beams of ionized atoms and clusters 45 (1978) 332
Kuroiwa, K., see Nanishi 45 (1978) 272
Kurosawa, S., see Hayashi 45 (1978) 426
Kyoto, M., see Bando 45 (1978) 20

Labunov, V., V. Parkhutik and E. Tkharev, Model of plasma anodization of metals and semiconductors 45 (1978) 399
Leswin, W.J., see Van Oirschot 45 (1978) 262
Lopez-Otero, A. and W. Huber, CdTe thin films grown by hot wall epitaxy 45 (1978) 214
Lyons, M.H., see Garrett 45 (1978) 150

Madar, R., F. Weiss, F. Fruchart and C. Bernard, Thermodynamic and experimental studies of the CVD of A-15 superconductors. I. $Nb_3Ga$ 45 (1978) 37
Maekawa, S., see Yao 45 (1978) 309
Majni, G. and G. Ottaviani, Solid phase epitaxial growth of Si through Al film 45 (1978) 132
Makita, Y., see Yao 45 (1978) 309
Matsubara, K., see Takagi 45 (1978) 318
Matsubara, K., see Yamada 45 (1978) 326
Matsubara, S., see Itoh 45 (1978) 446
Matsubara, T., see Nunomura 45 (1978) 355
Matsuda, N. and I. Akasaki, Vapour-phase epitaxial growth of ZnS on GaP 45 (1978) 192
Matsunami, H., S. Nishino and T. Tanaka, Heteroepitaxial growth of $\beta$-SiC on silicon substrate using $SiCl_4$–$C_3H_8$–$H_2$ system 45 (1978) 138
Matsunami, H., see Nishino 45 (1978) 144
Matsunami, H., see Ishida 45 (1978) 393
Matsuo, I., see Iwami 45 (1978) 467
Mihama, K., see Yatsuya 45 (1978) 490
Mihama, K., see Saito 45 (1978) 501
Mimoto, H., see Fujita 45 (1978) 281
Mitsuhashi, H., Y. Igasaki and M. Kaneko, Properties of titanium solid solutions prepared by reactive sputtering 45 (1978) 350
Mitsui, S., see Murotani 45 (1978) 302
Miura, A., see Komeno 45 (1978) 171
Mochizuki, K. and K. Igaki, Vapor phase transport and stoichiometry control of cadmium sulfo-selenide 45 (1978) 218
Mori, Y., see Morizane 45 (1978) 164
Morimoto, K., H. Watanabe and S. Itoh, Ionized-cluster beam epitaxial growth of GaP films on GaP and Si substrates 45 (1978) 334
Morizane, K. and Y. Mori, A thermodynamic factor influencing the growth rate and purity of epitaxial layers in the Ga–$AsCl_3$–$H_2$ system 45 (1978) 164
Murakami, Y., see Shiosaki 45 (1978) 346
Muranaka, S., see Bando 45 (1978) 20
Murotani, T., T. Shimanoe and S. Mitsui, Growth temperature dependence in molecular beam epitaxy of gallium arsenide 45 (1978) 302

Naito, K., N. Kamegashira and N. Fujiwara, Synthesis of nonstroichiometric zirconium carbide whiskers by chemical vapor deposition 45 (1978) 506
Nakahira, M., see Saeki 45 (1978) 25
Nakamura, N., see Itoh 45 (1978) 446
Nanishi, Y., K. Takahei and K. Kuroiwa, GaAs LPE growth and its applications to FET 45 (1978) 272
Naoe, M., Y. Hoshi and S. Yamanaka, High rate deposition of magnetic films by sputtering from two facing targets 45 (1978) 361
Nihira, H., see Nishizawa 45 (1978) 82
Nijman, W., see Van Oirschot 45 (1978) 262
Nishijima, M., see Yoshida 45 (1978) 376
Nishino, S., see Matsunami 45 (1978) 138
Nishino, S., H. Matsunami and T. Tanaka, Growth and morphology of 6H-SiC epitaxial layers by CVD 45 (1978) 144
Nishino, T., see Yamazoe 45 (1978) 454
Nishizawa, J. and H. Nihira, Mechanisms of chemical vapor deposition of silicon 45 (1978) 82
Nittono, O., see Iwanaga 45 (1978) 228
Nittono, O. and S. Shimizu, An X-ray double-crystal method utilizing non-parallel setting for measuring local lattice mismatches between epitaxial films and substrates 45 (1978) 476
Noguchi, T., see Fujita 45 (1978) 281
Nunomura, K., A. Ishitani, T. Matsubara and I. Hayashi, Second harmonic generation in a sputtered $LiNbO_3$ film on MgO 45 (1978) 355

Ogawa, T., see Suzuki 45 (1978) 108
Ohkawa, S., see Komeno 45 (1978) 171
Ohnishi, S., see Shiosaki 45 (1978) 346
Ohtake, H., see Shohno 45 (1978) 187
Okumura, T. and T. Ikoma, Deep levels and growth conditions of LPE GaAs crystals 45 (1978) 459
Osaka, Y., see Taniguchi 45 (1978) 126
Ottaviani, G., see Majni 45 (1978) 132
Ottaviani, G. and M. Costato, Compound formation in metal–semiconductor interactions 45 (1978) 365
Ozawa, M., see Yamada 45 (1978) 326

Park, R.L., P.I. Cohen, T.L. Einstein and W.T. Elam, Extended fine structure analysis using electron beams 45 (1978) 435
Parkhutik, V., see Labunov 45 (1978) 399
Pattison, J.E., see Farrow 45 (1978) 292

Reiners, G., see Harsdorff 45 (1978) 17
Robertson, J.M., Liquid phase epitaxy of garnets 45 (1978) 233
Rusaikin, M.P., see Chernov 45 (1978) 73
Ruxandra, V., see Spânulescu 45 (1978) 471

Saeki, M., M. Ishii, I. Kawada and M. Nakahira, Effects of addition of vanadium on the chemical transport of $TeS_x$, $x = 1.40–1.70$ 45 (1978) 25
Saito, H., see Yamai 45 (1978) 511
Saito, Y., S. Yatsuya, K. Mihama and R. Uyeda, Crystal structure and habit of fine metal particles formed by gas-evaporation technique; bcc metals (V, Fe, Cr, Mo and W) 45 (1978) 501
Saitoh, T., see Itoh 45 (1978) 446
Saraie, J., see Kitagawa 45 (1978) 198
Sasaki, A., see Takeda 45 (1978) 257
Schouten, W.J., see Kuiper 45 (1978) 332
Seki, H., A. Koukitu, H. Seki and M. Fujimoto, Thermodynamic analysis for silicon contamination on VPE GaAs 45 (1978) 159
Seki, H., see Seki 45 (1978) 159
Shibata, N., see Iwanaga 45 (1978) 228
Shimanoe, T., see Murotani 45 (1978) 302
Shimaoka, G., Epitaxial growth of some II–VI compound films evaporated onto electron-bombarded NaCl substrates 45 (1978) 313
Shimizu, S., see Nittono 45 (1978) 476

Shiosaki, T., S. Ohnishi, Y. Murakami and A. Kawabata, High rate epitaxial growth of ZnO films on sapphire by planar magnetron rf sputtering system 45 (1978) 346
Shiraki, Y., Y. Katayama, K.L.I. Kobayashi and K.F. Komatsubara, Molecular beam and solid-phase epitaxies of silicon under ultra-high vacuum 45 (1978) 287
Shohno, K., H. Ohtake and J. Bloem, Crystal growth of boron monophosphide using a $B_2H_6-PH_3-H_2$ system 45 (1978) 187
Spânulescu, I., N. Bălţăteanu and V. Ruxandra, The effect of electron irradiation on electrophysical properties of CdS, CdSe and ZnTe thin films 45 (1978) 471
Sugimoto, M., see Konagai 45 (1978) 277
Sugita, Y., see Suzuki 45 (1978) 108
Sunagawa, I., Vapour growth and epitaxy of minerals and synthetic crystals 45 (1978) 3
Suzuki, T., Y. Inoue, M. Ura, T. Ogawa and Y. Sugita, In-process monitoring and control of doping gas concentration during vapor phase silicon epitaxial growth by using a flame photometric detector 45 (1978) 108

Taguchi, T., S. Fujita and Y. Inuishi, Growth of high-purity ZnTe single crystals by the sublimation travelling heater method 45 (1978) 204
Takada, T., see Bando 45 (1978) 20
Takagi, T., I. Yamada, K. Matsubara and H. Takaoka, Ionized-cluster beam epitaxy 45 (1978) 318
Takagi, T., see Yamada 45 (1978) 326
Takahashi, K., see Konagai 45 (1978) 277
Takahei, K., see Nanishi 45 (1978) 272
Takakura, H., M. Yamamoto, Y. Hamakawa and T. Kariya, Liquid phase epitaxy of $Al_xGa_{1-x}P$ on GaP and its application to double heterostructure light modulators 45 (1978) 267
Takakura, H., see Yamazoe 45 (1978) 454
Takaoka, H., see Takagi 45 (1978) 318
Takeda, Y. and A. Sasaki, Composition latching phenomenon and lattice mismatch effects in LPE-grown $In_{1-x}Ga_xAs$ on InP substrate 45 (1978) 257
Takei, H., see Kobayashi 45 (1978) 29
Tanaka, T., see Matsunami 45 (1978) 138
Tanaka, T., see Nishino 45 (1978) 144
Tanaka, T., see Kitagawa 45 (1978) 198
Tanaka, T., see Ishida 45 (1978) 393
Taniguchi, M., M. Hirose and Y. Osaka, Substitutional doping of chemically vapor-deposited amorphous silicon 45 (1978) 126
Tasaki, A., see Akoh 45 (1978) 495
Thijs, P.J.A., see Van Oirschot 45 (1978) 262
Thomas, G.E., see Kuiper 45 (1978) 332
Titchmarsh, J.M., see Booker 45 (1978) 407
Tkharev, E., see Labunov 45 (1978) 399
Tokuyama, T., see Itoh 45 (1978) 446
Trilhe, J., J. Borel and J.P. Duchemin, Characterization of the silicon–sapphire interface 45 (1978) 439
Tsuji, S., see Ishida 45 (1978) 393
Tsukasaki, Y., see Yatsuya 45 (1978) 490
Tsukasaki, Y., see Akoh 45 (1978) 495

Ura, M., see Suzuki 45 (1978) 108
Uyeda, R., Growth of polyhedral metal crystallites in inactive gas 45 (1978) 495
Uyeda, R., see Yatsuya 45 (1978) 490
Uyeda, R., see Saito 45 (1978) 501

Van Enckevort, W.J.P. and L.J. Giling, The influence of adsorption and step reconstruction on the growth and etching vectors of silicon (111) 45 (1978) 90
Van Oirschot, T.G.J., W.J. Leswin, P.J.A. Thijs and W. Nijman, LPE growth of DH laser structures with the double source method 45 (1978) 262

Wada, T., see Kitamura 45 (1978) 176
Warabisako, T., see Itoh 45 (1978) 446
Watanabe, H., see Morimoto 45 (1978) 334
Weiss, F., see Madar 45 (1978) 37

Yamada, I., see Takagi 45 (1978) 318
Yamada, I., K. Matsubara, M. Kodama, M. Ozawa and T. Takagi, Characteristics of thin films formed by the ionized-cluster beam technique 45 (1978) 326
Yamada, T., see Yoshida 45 (1978) 376
Yamai, I. and H. Saito, Vapor phase growth of alumina whiskers by hydrolysis of aluminium fluoride 45 (1978) 511
Yamamoto, M., see Takakura 45 (1978) 267
Yamanaka, S., see Naoe 45 (1978) 361
Yamazaki, T., see Gonda 45 (1978) 66
Yamazoe, Y., H. Takakura, T. Nishino, Y. Hamakawa and T. Kariya, Characterization of the optical properties of LPE $In_xGa_{1-x}As_yP_{1-y}$ thin layers grown on InP 45 (1978) 454
Yao, T., Y. Makita and S. Maekawa, Molecular beam epitaxy of $ZnSe_xTe_{1-x}$ ($0 \leqslant x \leqslant 1$) 45 (1978) 309
Yatsuya, S., Y. Tsukasaki, K. Mihama and R. Uyeda, Preparation of extremely fine particles by vacuum evaporation onto a running oil substrate 45 (1978) 490
Yatsuya, S., see Akoh 45 (1978) 495
Yatsuya, S., see Saito 45 (1978) 501
Yoshida, K., K. Dejima, M. Nishijima and T. Yamada, Formation of amorphous Mn–Bi films and their crystallization process 45 (1978) 376
Yumoto, H., see Hasiguti 45 (1978) 13

## SUBJECT INDEX


Adsorption 73, 90
Alloys, 267, 340, 365, 454, 517
Aluminum
– gallium phosphide 267
– oxide 3, 511
Apparatus
– for thin film growth
– – by ionized-cluster beam epitaxy
– – – of gallium phosphide 334
– – – of metal films 326, 332
– – – of silicon 318
– – – of zinc oxide
– – by liquid phase epitaxy
– – – of aluminum gallium phosphide 267
– – – of gallium arsenide 243
– – – of gallium selenide 281
– – by molecular beam epitaxy
– – – of gallium arsenide 302
– – – of metal films 292
– – – of silicon 287
– – by vapor phase epitaxy
– – – by chemical vapor deposition
– – – – of gallium arsenide 171, 181
– – – – of silicon 97, 108
– – – – of zinc sulphide 192
– for vapor growth
– – by chemical transport
– – – of gallium aluminum antimonide 176
– – – of scandium hydride 29
– – – of tri-niobium gallium 37
– – – of zinc sulphide 198
– – – of zirconium carbide 506
– – by evaporation and condensation
– – – of ice 57, 66
– – by getter sputtering
– – – of germanium silicon alloys 340
– – – of magnetic films 361
– – – of zinc oxide 346
– – by high temperature hydrolysis
– – – of aluminum oxide 511
– – by modified entrainement method
– – – of III–V compounds 150
– – by sublimation traveling heater method
– – – of zinc telluride 204
– – by UHV deposition
– – – of manganese bismuth 376
– – by vacuum evaporation on running oil substrate
– – – of fine metal particles 490
– – – of magnetic oxides 495
– of miscellaneous purposes
– – economical reactor 97
– – gas analysis system with mass spectrometer 20
– – in situ gas analysis by IR absorption 82

Beryl 3
Boron
– monophosphide 187
Boundary layer control 181
Brass 517

Cadmium 13
– selenide 313, 471
– sulphide 313, 471
– sulfo-selenide 218
– telluride 214, 313
Characterization methods
– by Auger electron spectroscopy (AES) 287, 292, 334, 393, 435, 459, 467
– by chemical analysis 25, 495
– by conductivity, dc 126
– by deep-level transient spectroscopy 272
– by diffusion characteristics 326
– by electrical properties 132, 171, 204, 214, 218, 224, 248, 257, 267, 272, 277, 281, 292, 302, 318, 326, 340, 350, 383, 407, 439, 459, 471
– by electron diffraction 138, 187, 287, 313, 340, 355, 376, 383, 393, 471, 495
– by electron microscopy 3, 13, 29, 90, 118, 132, 144, 176, 192, 198, 214, 224, 228, 252, 257, 267, 281, 309, 313, 334, 340, 346, 361, 376, 383, 393, 407, 426, 439, 485, 490, 495, 501, 506, 511, 517
– by electroreflectance spectra 454
– by EPMA 13, 37, 132, 224, 267, 309, 361, 454
– by flame photometry 108
– by ion back scattering 292, 365
– by IR spectroscopy 82, 108, 383
– by LEED 302
– by luminescence 192, 204, 281, 287, 302, 318, 334, 407, 454
– by magnetic measurements 495
– by magnetoresistance 126
– by mass spectrometry 20, 132, 204, 439
– by microwave absorption 171
– by optical absorption 126, 176, 334, 471
– by optical microscopy 29, 48, 57, 66, 248, 309
– by optical modulation 267, 346, 393
– by photoconductivity 126
– by RHEED 292, 302, 309, 318, 332, 334, 346

– by solar efficiency 277
– by XPS 426
– by X-ray techniques 29, 176, 192, 198, 224, 257, 281, 309, 318, 340, 346, 350, 361, 365, 383, 393, 435, 467, 476, 485
Cobalt
– oxide 495
Coincidence site lattice theory 48, 57
Computer simulation, Monte Carlo method 3
Convection 233
Copper 517
– zinc alloy 517
– (I) sulphide 467

Dendritic growth 517
Diffusional control 73, 132, 233, 248, 252, 262, 399, 446
Dislocations 407, 471
Dissolution 383
Distribution coefficient 248

Etching
– chemical 90, 176, 181, 192, 228, 252, 257, 277, 281, 287, 365, 426, 446, 459

Ferroelectricity 393
Fluid flow 233

Gallium
– aluminum antimonide 176
– aluminum arsenide 252, 262, 407
– arsenide 73, 159, 164, 171, 243, 262, 272, 302, 407
– phosphide 334, 407
Garnets 233, 361, 476
Germanium
– Silicon alloys 340
Gold 17
Grain boundary 48, 57, 446

Ice 48, 57, 66
Impurity 13, 29, 66, 82, 108, 159, 181, 187, 204, 243, 248, 281, 446, 454, 459, 471
Indium
– gallium arsenide 257
– (gallium) arsenide (phosphide) 454
– phosphide 248
Interface 73, 90, 233, 292, 313, 399, 426, 439
Iron 361
– oxide 3, 495

Kinetics
– of deposition 490, 506
– of evaporation 198
– of interface control 467
– of growth 17, 82, 97, 118, 126, 132, 138, 144, 150, 171, 176, 187, 192, 198, 224, 228, 233, 248, 252, 281, 340, 365, 399, 511
– of nucleation 17, 204

Laser 262, 355
Lattice mismatch 192, 257, 355, 407, 454, 476
Lead (lanthanum), (zirconate) titanate, PLZT 393
Lead tin telluride 224
Lithium niobate 355

Magnetic oxides 495
Manganese
– bismuth 376
Metal crystallites 485, 501
Metal films 292, 326, 361, 399, 435
Metal silicides 365
Mica 3
Morphological stability 90
Morphology growth 3, 13, 29, 48, 57, 66, 90, 132, 144, 192, 198, 228, 252, 257, 287, 407, 426, 485, 501, 511, 517

Nickel 361
– ferrite 361
– oxide 495
tri-Niobium
– gallium 37
Nucleation 48, 57, 313

Perfection of crystals 204, 257, 302, 313, 426, 446, 459, 471, 495, 506
Phase diagrams 25, 37, 224, 267, 365, 376, 454
Polarity, crystallographic 228

Segregation 302
Silicon 73, 82, 90, 97, 108, 118, 126, 132, 287, 318, 383, 426, 439, 446
– carbide 3, 138, 144
Silver 332, 490
Solar cells 277, 326, 446, 467
Solid growth
– by recrystallization
– – of manganese bismuth 376
– – of silicon 287
– by vacuum deposition
– – of metal silicides 365
– – and heat treatment
– – – of copper (I) sulphide 467
Solution growth
– by flux
– – of indium phosphide 248
SOS (silicon-on-sapphire) 426, 439
Spirals 3
Step 3, 90
Superconductors 37
Supercooling, supersaturation 262
Supermagnetism 495
Surface energy 228
Surface processes, theory 17, 73, 90, 150, 399
Surface structure 90, 287, 292, 302, 313, 435
Synthetic crystals 3

Thermodynamics 20, 29, 37, 82, 150, 159, 164, 218, 399, 506, 511
Thin film
– by anodic reaction
– – of silicon 383
– by hot wall epitaxy
– – of cadmium telluride 214
– by ionized cluster beam epitaxy
– – of gallium phosphide 334
– – of metal films 326
– – of silicon 318
– – of silver 332
– – of zinc oxide 318
– by molecular beam epitaxy
– – of gallium arsenide 302
– – of metal films 292
– – of silicon 287
– by oxygen plasma anodization
– – of aluminum 399
– – theory of 399
– by liquid phase epitaxy
– – of aluminum gallium phosphide 267
– – of gallium aluminum arsenide 252, 262
– – of gallium arsenide 243, 262, 272, 277, 459
– – of garnets 233
– – of indium gallium arsenide 257
– – of indium (gallium) arsenide (phosphide) 454
– – of zinc selenide 281
– by vapor phase epitaxy
– – by chemical vapor deposition
– – – of boron monophosphide 187
– – – of gallium aluminum antimonide 176
– – – of gallium arsenide 171, 181
– – – of silicon 97, 108, 118, 126, 439, 446
– – – of silicon carbide 138, 144
– – – of zinc sulphide 192
– – by crystallization of amorphous films
– – – of manganese bismuth 376
– – by evaporation and condensation
– – – of cadmium chalcogenide 313, 471
– – – of copper (I) sulphide 467
– – – of gold 17
– – – of lead tin telluride 224
– – – of silicon 287
– – – of zinc selenide 313
– – – of zinc telluride 471
– – by getter sputtering
– – – of germanium silicon alloys 340
– – – of lead lanthanum, zirconate titanate 393
– – – of lithium niobate 355
– – – of magnetic films 36
– – – of titanium solid solutions 350
– – – of zinc oxide 346
Thin film solar cells 277, 326, 467
III–V compounds 150, 407
Titanium solid solutions 350
Titanium
– sulphide, nonstoichiometric 25
Transport phenomena 97, 118, 150, 198

Vanadium dioxide 20
Vapor growth
– by chemical transport
– – by gallium aluminum antimonide 176
– – of gallium arsenide 164
– – – theory of 159, 164
– – of scandium hydride 29
– – of silicon 82, 118
– – of III–V compounds 150
– – of titanium sulphide 25
– – of triniobium gallium 37
– – of vanadium dioxide 20
– – of zinc oxide 228
– – of zinc sulphide 198
– – of zirconium carbide 506
– by evaporation and condensation
– – of cadmium sulfo-selenide 218
– – of cadmium telluride 214
– – of ice 57, 66
– – of magnetic oxides 495
– – of metal crystallites 485, 501
– – of silicon 132
– – of silver 490
– by high temperature hydrolysis
– – of aluminum oxide 511
– by modified entrainement method
– – of III–V compounds 150
– by sublimation travelling heater method
– – of zinc telluride 204
Vapor–liquid–solid growth
– of cadmium 13
– of copper 517
– of copper zinc alloy 517
– of zinc oxide 228

Whisker growth
– of aluminum oxide 511
– of cadmium 13
–of copper 517
– of copper zinc alloy 517
– of zinc oxide 228
– of zirconium carbide 506

Yttrium
– aluminum garnet 233
– (europium erbium) iron (gallium)
– garnet 476
– iron garnet 233, 361

Zinc
– oxide 228, 318, 346
– selenide 281, 313
– selenide telluride 309
– sulphide 192, 198
–telluride 204, 471
Zirconium
– carbide 506